UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,363	01/02/2001	Zoran Obradovic	B-094	1685

7590 01/20/2004

Stephen R. Christian
BECHTEL BWXT IDAHO, LLC
P.O.Box 1625
Idaho Falls, ID 83415-3899

EXAMINER	
HAMILTON, MONPLAISIR G	

ART UNIT	PAPER NUMBER
2172	13

DATE MAILED: 01/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/753,363	OBRADOVIC ET AL.	
	Examiner	Art Unit	
	Monplaisir G Hamilton	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 10-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7 and 10-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Continued Prosecution Application

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/03 has been entered.

The communication filed on 10/13/03 amended claims 1, 5 and 7, 13, 14, 17-22, 24 and 25 and cancelled claims 8-9. Claims 1-7 and 10-25 remain for examination.

Response to Arguments

2. Applicant's arguments filed 10/13/03 have been fully considered but they are not persuasive.

Applicants argue: *"[A]ny proposed combination of the Busche reference, the Hauwiller reference, and the Kohavi reference does not teach or suggest the claim limitations calling for "an act of inspecting the generated data set to provide statistical information for the data set," among other things. Applicants respectfully disagree with the Office Actions' characterization of the Busche disclosure. The portion of Busche cited by the Office Action states, "Data mining involves many aspects of computing, including, but not limited to, database theory, statistical analysis, artificial intelligence, and parallel/distributed computing. Data mining may be categorized into several tasks, such as association, classification, and clustering" (Busch col. 4, lines 53-55). Simply mentioning that statistical analysis may*

generally be used in data mining does not teach the use of statistical analysis on a specific set of data selected as part of an overall process. The element in claim 1 of the present invention states "an act of inspecting the generated data set to provide statistical information for the data set. " "The generated data set" is from the "act of generating a data set from the spatial data . . . the data set being varyingly complex based on identified attributes. " In other words, in the present invention, the, statistical information is provided on a data set that may be a portion of the overall spatial data and this data set is selected and varies in complexity based on identified attributes. Whereas, at best, Busche teaches a general use of statistical analysis, in data mining, and does not teach the advantages of when statistical analysis should be applied or to which portion of the data the analysis should be applied.

In addition, while the Hauwiller reference discusses statistical analysis (FIG. 16; col. 16, lines 45-66), it only discusses the analysis in the context of preparing raw spatial data prior to storage and retrieval, such that future data mining might be more efficient. Once again, this does not teach the advantage of statistical analysis on a data set generated from the spatial data based on identified attributes."

Examiner disagrees with applicant. Busche explicitly states "as the present invention relies extensively on the relatively new field of data mining and uses data mining algorithms without proffering a new data mining algorithm per se, a discussion of the general techniques and purposes of data mining are provided (col 4, lines 20-30). Additionally Busche discloses give two non-intersecting sets of items, e.g. sets X and Y, one may attempt to discover whether there is a rule if X was 1 percent zinc, the Y was 1 percent zinc, and the rule is assigned a measure of support and confidence (col 5, lines 1-10). The assignment of support and confidence to the data set comes from an inspection of the data set.

Furthermore, Busche discloses selecting the appropriate attributes before mining the generated data. Busche's system provides automatic attribute selection, before generating the data set. Selecting the appropriate attributes can reduce the time spent data mining (col 8, lines 20-35). Kohavi disclose an attribute selection method wherein the attributes are selected by the user (Kohai: col 4, lines 35-40, 60-65; col 6, lines 55-60). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Busche such that attribute selection is based on user input. One of ordinary skill in the art would have been motivated to do this because it would provide a faster way of choosing which attributes are important (Kohavi: col 7, lines 36-45).

Examiner therefore holds that the combination of Busche and Kohavi discloses "an act of generating a data set from the spatial data using identified attributes selected by a user, the data set being varyingly complex based upon the identified attributes selected by the user; an act of inspecting the generated data set to provide statistical information for the data set; and an act of preprocessing the data set to prepare the data set for modeling;"

Applicants further argue: *"applicants can find no teaching in the art of record directed toward partitioning into a training set and a modeling set, particularly as proposed in claim 1 relating to different possible methods of dividing the data."*

Examiner disagrees with applicant. Busche discloses creating a neural network (col 7, lines 15-50). The NN uses training data to learn a particular relationship (col 7, lines 40-50).

The system then uses the neural network to predict unknown values (col 10, lines 40-55). Examiner holds that Busche's disclosure of training a neural network and application of the neural network provides the claimed dividing the data.

Applicants further argue: *"Applicants submit that the partitioning module is performing a function different from discretization. Discretization is generally used for reduction in complexity and execution time in the data mining operation. Whereas, partitioning in the present invention is used in for creating a training set useful for improving the modeling process. Further, Applicants submit that the process of discretization necessarily creates non-homogenous data segments since the process attempts to split data based on different values in a given category. As a result, the discretization described in the reference does not teach or suggest the "data portioning module for dividing the data set into homogeneous data segments. "*

To clarify this distinction, Applicants propose amending claim 7 to show "a data partitioning module for dividing the data set into a training set and at least one modeling set . . . " Applicants can find no teaching in the art of record directed toward dividing into a training set and a modeling set, particularly as proposed in claim 7 relating to different possible partitions for the data."

Examiner disagrees with applicant. Busche discloses a process for creating a neural network that is used by the data mining system (col 7, lines 15-50). The NN is trained using training data. After training the NN current data is applied to the NN, which creates recommendations/predictions. Examiner holds that the training and operation of the NN provides the claimed partitioning of the data set into training and model data.

Applicants further argue: *"Both "predefined recommendation equations" and "user specified recommendations" suggests a priori development of the recommendations. As a result, Hauwiller would suggest against, or at least lead away from, "using the estimation of predetermined parameters to . . . provide recommendations as to how to achieve a predetermined target variable. " In other words, the prior art suggests using pre-defined recommendations rather than the present inventions claim of generating recommendations as to how to achieve a target variable as part of the result of the spatial data mining process.*

Additionally, Applicant's can find nothing in the cited references of Hauwiller, Busche, or Kohavi, teaching, "using the estimation of the predetermined parameters to . . . create new spatial data mining methods."

Examiner disagrees with applicant. Hauwiller discloses that the recommendation equations can be based on empirical data (col 7, lines 25-30). Therefore the recommendations disclosed by Hauwiller are not necessarily predefined (col 8, lines 35-50; col 9, lines 30-40). Furthermore, because the recommendation equations disclosed by Hauwiller are dynamically generated, stored and interpreted the system is able to create new data mining functions whenever the recommendation equations are changed (col 13, lines 40-65).

Examiner holds that Hauwiller discloses the claimed using the estimation of the predetermined parameter to accomplish a predetermined purpose, wherein the predetermined purpose includes at least one of determining how the predicted variable affects a predetermined target variable, providing recommendations as to how to achieve a predetermined target variable, and creating new spatial data mining methods.

Applicant has argued that Claim 23 contains the limitation of creating new spatial data mining methods. This claim does not currently recite the purported limitations.

Claim Objections

3. Claims 16-25 are objected to because of the following informalities: "creating new data mining functions", this proposed limitation is not found in the specification or drawings. Examiner has interpreted this to mean adding new algorithms (Specification, page 35, lines 10-12). Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7, 10-11 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6430547 issued to Busche et al, herein referred to as Busche in view of US 6026399 issued to Kohavi et al, herein referred to as Kohavi.

Referring to Claim 7:

Busche discloses a system including one or more spatial databases corresponding to one or more spatial environments, a system for knowledge discovery from the one or more spatial databases, the system (Fig 4; col 2, lines 19-21; col 6, lines 10-15) comprising: spatial data modeling and analysis module (SDAM module) for extracting knowledge from the one or more spatial databases (Fig 4; col 13, lines 25-30, 35-40), the SDAM module comprising:

a data inspection module for providing spatial statistics on the loaded data set (col 4, lines 53-55);

a data preprocessing module for preparing the data set for modeling, wherein the data preprocessing module removes errors from the data set (col 8, lines 1-5);

a data partitioning module for dividing the data set into a training set and at least one modeling set wherein the dividing is selected from the group consisting of: dividing such that the

training se comprises a substantially homogeneous spatial relationship to the at least one modeling set, and dividing such that the training set comprises a substantially separate spatial relationship to the at least one modeling sets (col 7, lines 10-15; col 10, lines 40-55); and

a modeling module for describing relationships between the attributes and one or more target values, wherein the relationships are obtained from the training set and applied to the at least one modeling set (col 10, lines 40-55).

Busche does not explicitly discloses "a data generation and manipulation module for loading a the data set from the one or more spatial databases based on designated attributes, wherein the attributes are selected and supplied to the data generation and manipulation module by a user through the user interface;"

Kohavi discloses a data generation and manipulation module for loading a the data set from the one or more spatial databases based on designated attributes, wherein the attributes are selected and supplied to the data generation and manipulation module by a user through the user interface (col 4, lines 35-40, 60-65; col 6, lines 55-62).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Busche such that attribute selection is based on user input. One of ordinary skill in the art would have been motivated to do this because it would provide a faster way of choosing which attributes are important (Kohavi: col 7, lines 36-45).

Referring to Claim 10:

Busche discloses the limitations as discussed in Claim 7 above. Busche further discloses the SDAM module further comprises an integration module for enhancing the knowledge generated from the one or more spatial databases (col 8, lines (col 8, lines 1-5).

Referring to Claim 11:

Busche discloses the limitations as discussed in Claim 7 above. Busche further discloses the preprocessing module further comprises: a cleaning and filtering module for removing duplicate data and removing noise from the loaded data set; a data interpolation module for computing common values for a common set of locations (col 8, lines 1-6); a data inspection module for providing spatial statistics on the loaded data set (col 4, lines 53-55); a data preprocessing module for preparing the data set for modeling, wherein the data preprocessing module removes errors from the data set (col 8, lines 1-6); a data partitioning module for dividing the data set into a homogenous data segments which improve data modeling (col 8, lines 58-62); and a modeling module for describing relationships between the attributes and one or more target values, wherein the relationships are obtained from the partitioned data set (col 10, lines 21-25).

Referring to Claim 15:

Busche in view of Kohavi discloses the limitations as discussed in Claim 7 above. Kohavi further discloses the data generation and manipulation module, the data inspection, the

data preprocessing module, the data partitioning module, and the modeling module can be independently controlled by the user through the user interface (Fig. 4).

5. Claims 1-6, 12-14 and 16-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6430547 issued to Busche et al, herein referred to as Busche and US 6236907 issued to Hauwiller et al, herein referred to as Hauwiller in view of US 6026399 issued to Kohavi et al, herein referred to as Kohavi.

Referring to Claims 1 and 6:

Busche discloses a system including spatial data for a spatial environment (Fig 4; col 2, lines 19-21). Busche further discloses an act of partitioning the spatial data into a training set and at least one modeling set wherein the act of partioning is selected from the group consisting of: selecting the training set such that the training set comprises a substantially homogenous spatial relationship to the at least one modeling set, and selecting the training set such that the training set comprises a substantially separate spatial relationship to the at least one modeling set (col 7, lines 15-50; col 10, lines 40-55);

an act of inspecting the generated data set to provide statistical information for the data set (col 4, lines 53-55); an act of preprocessing the data set to prepare the data set for modeling (col 8, lines 17; col 9, lines 21-25);

an act of modeling the preprocessed data set to describe relationships between the attributes and the one or more target values (col 7, lines 15-50).

Busche does not explicitly discloses " user selection of the attributes, and an act of providing recommendations such that the recipe is optimized"

Kohavi discloses an act of generating a data set from the spatial data using identified attributes selected by a user, the data being varyingly complex based upon the identified attributes selected by the user (col 4, lines 35-40, 60-65; col 6, lines 55-62).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of Busche such that attribute selection is based on user input. One of ordinary skill in the art would have been motivated to do this because it would provide a faster way of choosing which attributes are important (Kohavi: col 7, lines 36-45).

Busche in view of Kohavi do not explicitly discloses an act of providing recommendations such that the recipe is optimized"

Hauwiller discloses using an expert system (data mining system) to generate application maps based on field data and the relationship to the desired output (col 4, lines 36-40). The system further generates treatment reports in addition to the applications maps (col 4, lines 48-52). Hauwiller further states that user instructions are used to determine what information is retrieved when generating the reports and maps (col 4, lines 23-26). Hauwiller further discloses the system is able to provide recommendations on how to optimize a fertilizer recipe (col 9, lines 25-40).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the user-attribute selection, pre-processing and statistical analysis disclosed by Busche and Kohavi in Hauwiller's system. One of ordinary skill in the art would

have been motivated to do this because it would allow the user to determine optimum fertilization levels (Hauwiller: col 1, lines 35-40).

Referring to Claim 16 and 22:

Busche discloses a system a networked computer system that includes a client and a server (col 3, lines 24-26), wherein the server maintains spatial data sets (Fig 4, col 2, lines 19-21; col 6, lines 10-15), a method for analyzing the spatial data sets over the network (col 10, lines 15-18), the method comprising the steps for: classifying the spatial data sets into predetermined classes (col 8, lines 58-62).

Busche does not explicitly disclose "applying spatial data mining functions to the spatial data sets, the spatial data sets generated using identified attributes selected by a user, wherein said spatial data mining functions comprise the steps for modeling the spatial data sets to provide estimation of predetermined parameters at predetermined points; and using the estimation of the predetermined parameter to accomplish a predetermined purpose, wherein the predetermined purpose includes at least one of determining how the predicted variable affects a predetermined target variable, providing recommendations as to how to achieve a predetermined target variable, and creating new spatial data mining methods."

Hauwiller discloses using an expert system (data mining system) to generate application maps based on field data and the relationship to the desired output (col 4, lines 36-40). The system further generates treatment reports in addition to the applications maps (col 4, lines 48-52). Hauwiller further states that user instructions are used to determine what information is

retrieved when generating the reports and maps (col 4, lines 23-26) and the instructions are entered using a user interface (col 1, lines 65-67; col 4, lines 5-35).

Busche in view of Hauwiller do not explicitly disclose, "the spatial data sets generated using identified attributes selected by a user".

Kohavi discloses the spatial data sets generated using identified attributes selected by a user (col 4, lines 60-65).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the user-attribute selection, pre-processing and statistical analysis disclosed by Busche and Kohavi in Hauwiller's system. One of ordinary skill in the art would have been motivated to do this because it would allow the user to determine optimum fertilization levels (col 1, lines 35-40).

Referring to Claim 23:

Busche discloses an environment including spatial data relating to a specific agricultural field (col 9, lines 60-65), a method for analyzing the spatial data comprising steps for: classifying the spatial data sets into predetermined classes (col 8, lines 58-62).

Busche does not explicitly disclose "applying spatial data mining functions to the spatial data, wherein said spatial data mining functions comprise the steps for modeling the spatial data to provide estimation of predetermined parameters at predetermined points; using the results of the spatial data analysis to optimize the treatment of the agricultural field to produce a predetermined yield.

Hauwiller discloses using an expert system (data mining system) to generate application maps based on field data and the relationship to the desired output (col 4, lines 36-40). The system further generates treatment reports in addition to the applications maps (col 4, lines 48-52). Hauwiller further states that user instructions are used to determine what information is retrieved when generating the reports and maps (col 4, lines 23-26) and the instructions are entered using a user interface (col 1, lines 65-67; col 4, lines 5-35). Optimization of the yield is also performed by Hauwiller's system (col 1, lines 22-25; 35-38).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to employ the data mining techniques disclosed by Busche in Hauwiller's system. One of ordinary skill in the art would have been motivated to do this because it would allow the user to determine optimum fertilization levels (col 1, lines 35-40).

Referring to Claim 2:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 1 above. Busche further discloses the act of preprocessing the data set further comprises: an act of cleaning the generated data set (col 8, lines 1-5); an act of interpolating the generated data set; an act of normalizing the generated data set; and an act of generating new attributes (col 8, lines 1-6).

Referring to Claim 3:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 1 above. Hauwiller further discloses the recipe is a fertilizer recipe for use in an agricultural field (col 1, lines 23-25, 35-38).

Referring to Claim 4:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 1 above. Hauwiller further discloses a crop yield is included in the one or more target values (col 18, lines 47-49).

Referring to Claim 5:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 1 above. Busche further discloses the relationships include one or more clusters, wherein a first cluster from first spatial data corresponding to as first spatial environment is used to optimize a recipe for a second spatial environment (col 8, lines 58-63).

Referring to Claim 12:

Busche and Kohavi disclose the limitations as discussed in Claim 7 above.

Busche and Kohavi do not explicitly disclose "a recommendation module, wherein the recommendation module optimizes a recipe for a spatial environment"

Hauwiller discloses the limitations as discussed in Claim 7 above. Hauwiller further discloses a recommendation module, wherein the recommendation module optimizes a recipe for a spatial environment (col 1, lines 22-25, 35-38).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify Busche and Kohavi such that the system output a recipe recommendation. One of ordinary skill in the art would have been motivated to do this because it would allow the user to determine optimum fertilization levels (Hauwiller: col 1, lines 35-40).

Referring to Claim 13:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 12 above. Hauwiller further discloses the recommendation module includes at least one of: a fertilization module for optimizing a fertilizer recipe to be applied to an agricultural field; an irrigation module for optimizing a water recipe to be applied to a field; and an equipment module for optimizing a recipe to be applied to equipment (col 1, lines 22-25, 35-38).

Referring to Claim 14:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 13 above. Hauwiller further discloses the recommendation module z includes at least one of: a pesticide module, a herbicide module, and a seed-spacing module (col 1, lines 22-25, 35-38).

Referring to Claim 17:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16 above. Busche further discloses the step for combining different programming environments to allow different programming environments to function on one server (Fig 8; col 5, lines 5-10).

Referring to Claim 18:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 17 above. Busche further discloses the step for combining different programming environments comprises a unified controller (col 5, lines 5-10).

Referring to Claim 19:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16 above. Busche further discloses the spatial data set is generated by a spatial data simulator (col 8, lines 35-45).

Referring to Claim 20:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16 above. Busche further discloses said spatial data mining functions further comprise the step for partitioning said data set into more homogenous portions (col 8, lines 58-62).

Referring to Claim 21:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 16 above. Busche further discloses said spatial data mining functions further comprise the step for integrating said modeling and classifications steps (Fig 4; col 8, lines 1-5; col 10, lines 20-25).

Referring to Claim 24:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 23 above. Hauwiller further discloses said spatial data consists of past and present data of a specific agricultural field (col 6, lines 62-65).

Referring to Claim 25:

Busche and Kohavi in view of Hauwiller disclose the limitations as discussed in Claim 23 above. Busche further discloses the step for applying spatial data mining functions occurs in a network environment (col 3, lines 20-26).

Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

WO 9946703 A1 issued to Hoskinson, Reed et al. Hoskinson discloses a system and method are provided to optimize a recipe for a spatial environment. The method generally comprises the steps of generating, analyzing a spatial database and devising a recipe. Generation of the spatial database involves the generation of both historic statements (110)

and facts gathered from historic (112), present and future predicted events (114). Once the spatial database is generated, the facts are iteratively analyzed against the current statements (104) to see if they can or cannot be executed. If the facts can be executed, the facts are maintained as stored facts and analyzed for their economic feasibility. The determination of economic feasibility for the stored facts is accomplished by a iterative process similar to the determination of whether the facts can be executed. Once economic feasibility is determined, the recipe is devised. The method is optionally applied to the agricultural field for devising the fertilizer recipe, the irrigation recipe, and the split recipe.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monplaisir G Hamilton whose telephone number is 1703-305-5116. The examiner can normally be reached on Monday - Friday (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on 1703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 1703-305-3900.

Monplaisir Hamilton